भारतीय मानक
Indian Standard

IS 16523 : 2018

सूप पाउडर — विशिष्टि

Soup Powder — Specification

ICS 67.230

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Ready to Eat Foods and Specialized Products Sectional Committee, FAD 24

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Ready to Eat Foods and Specialized Products Sectional Committee had been approved by the Food and Agriculture Division Council.

Soup powder is a type of instant soup designed for fast and simple preparation. Some are homemade, and some are mass produced on an industrial scale and treated in various ways to preserve them. A wide variety of types, styles and flavours of instant soups exist. Commercial instant soups are usually dried or dehydrated, canned, or treated by freezing.

In the formulation of this standard, due consideration has been given to the provisions of the *Food Safety and Standards Act*, 2006 and the Rules framed thereunder and the *Legal Metrology (Packaged Commodities) Rules*, 2011. However, this standard is subject to the restrictions imposed under these, wherever applicable.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 ‘Rules for rounding off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SOUP POWDER — SPECIFICATION

1 SCOPE

This standard prescribes the composition, quality requirements and method of test for soup powders.

2 REFERENCES

The standards given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards indicated below:

IS No.	*Title*
2491 : 2013	Food hygiene — General principles — Code of Practice
5403 : 1999	Method for yeast and mould count of foodstuffs and animal feeds
5887	Methods for detection of bacteria responsible for food poisoning:
(Part 1) : 1976	Isolation, identification and enumeration of *Escherichia Coli*
(Part 2) : 1976	Isolation, identification and enumeration of *Staphylococcus Aureus* and *Faecal Streptococci*
(Part 3) : 1999	General guidance on methods for the detection of *Salmonella*
(Part 4) : 1999	Isolation and identification of Clostridium perfringens (*Clostridium Welchii*) and *Clostridium Botulinum* and *Enumeration* of *Clostridium Perfringens*
(Part 5) : 1976	Isolation, identification and enumeration of *Vibrio Cholerae* and *Vibrio Parahaemolyticus*
(Part 7) : 1999	General guidance on methods for isolation and identification of Shigella
13815 : 2009/ ISO 2173 : 2003	Fruit and vegetable products — Determination of soluble solids content — Refractometric method
16021 : 2012	Good manufacturing practices (GMP) — Requirements for organizations in the food processing sector

3 DESCRIPTION

For the purpose of this standard, soup powders means the products obtained by mechanical dehydration of fresh vegetables/fruits juice/pulp/puree of sound vegetables/fruits and or prior concentrated, dehydrated, frozen or processed fruits and vegetables, meat, poultry and fish singly or in combination by blending with salt, nutritive sweeteners, herbs, spices and condiments or any other ingredients suitable to the product, and packed suitably to prevent spoilage.

4 REQUIREMENTS

4.1 Quality Requirements

Soup powder shall comply to the requirements given in Table 1 when tested in accordance with the test methods given at col 4 of Table 1.

Table 1

(*Clause* 4.1)

Sl No. (1)	Characteristic (2)	Requirement (3)	Method of Test, Ref to (4)
i)	Moisture, percent by weight, *Max*	10.0	Annex A
ii)	Total soluble solids (m/m) (on dilution on ready to serve basis), percentage, *Min*	5.0	IS 13815 : 2009/ISO 2173 : 2003

4.2 Food Additives

Soup powder may contain food additive(s) as per *Food Product Standards and Food Additives Regulations*, 2011.

4.3 Contaminants, Toxins and Residues

Soup powder shall comply with *Food Safety and Standards (Contaminants, Toxins and Residues) Regulations*, 2011.

4.4 Hygienic Conditions

The products covered by the provisions of this standard shall be manufactured, packed and stored under hygienic conditions in licensed premises (*see* IS 2491). To the extent possible in good manufacturing practice (*see* IS 16021), the cleared product shall be free from objectionable matter.

4.5 Microbiological Requirement

The products covered under this standard shall conform to microbiological requirements as given below.

4.5.1 Yeast and mould count shall not be more than 1 000/g when tested according to method specified in IS 5403. Initial suspension of a specified quantity (for example 0.1 g or 1 g) may be used to prepare dilutions.

4.5.2 Flat sour organism count shall not be more than 10 000 cfu/g for those products which have *p*H less than 5.2 and shall be nil for those products which have *p*H more than 5.2 when tested according to method specified in Annex B. Initial suspension of a specified quantity (for example 0.1 g or 1 g) may be used to prepare dilutions.

4.5.3 *Staphylococcus aureus* shall be absent in 25 g of sample when tested according to method specified in IS 5887 (Part 2). Initial suspension of a specified quantity (for example 25 g) may be used to prepare dilutions.

4.5.4 *Salmonella* shall be absent in 25 g of sample when tested according to method specified in IS 5887 (Part 3). Initial suspension of a specified quantity (for example 25 g) may be used to prepare dilutions.

4.5.5 *Shigella* shall be absent in 25 g of sample when tested according to method specified in IS 5887 (Part 7). Initial suspension of a specified quantity (for example 25 g) may be used to prepare dilutions.

4.5.6 *Clostridium botulinum* shall be absent in 25 g of sample when tested according to method specified in IS 5887 (Part 4). Initial suspension of a specified quantity (for example 25 g) may be used to prepare dilutions.

4.5.7 *E. coli* shall be absent in 1 g of sample when tested according to method specified in IS 5887 (Part 1). Initial suspension of a specified quantity (for example 0.1 g or 1 g) may be used to prepare dilutions.

4.5.8 *Vibrio cholera* shall be absent in 25 g of sample when tested according to method specified in IS 5887 (Part 5). Initial suspension of a specified quantity (for example 25 g) may be used to prepare dilutions.

5 PACKING

The product shall be packed and labelled as stipulated under the *Legal Metrology (Packaged Commodities) Rules*, 2011 as well as in accordance with requirements under *Food Safety and Standards (Packaging and Labeling) Regulations*, 2011.

6 MARKING

6.1 Each package shall be suitably marked as to give the following information:

a) Name of the material ‘SOUP POWDER’;
b) Month of manufacture;
c) Name and address of the manufacturer;
d) Batch or Code number;
e) Net quantity;
f) Maximum retail price inclusive of all taxes;
g) Best before……..month…….year; and
h) Any other information required under the *Legal Metrology (Packaged Commodities) Rules*, 2011 and the *Food Safety and Standards (Packaging and Labelling) Regulations*, 2011.

6.2 BIS Certification Marking

The product may also be marked with the Standard Mark.

6.2.1 The use of standard mark is governed by the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and regulations made thereunder. The details of conditions under which a license for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

ANNEX A

(*Table* 1)

DETERMINATION OF MOISTURE CONTENT

A-1 PROCEDURE

Weigh accurately about 10 g of the material in a suitable moisture dish, previously dried in an electric oven and weighed. Place the dish in an electric oven maintained at 130 to 133°C for 90 min. Cool the dish in a desiccator and weigh with the lid on. Repeat the process of heating, cooling and weighing at 30 min. intervals until the loss in mass between two successive weighing is less than 1 mg. Record the lowest mass obtained.

A-2 CALCULATION

$$\text{Moisture, percent by weight} = \frac{100(W_1 - W_2)}{(W_1 - W)}$$

where

W_1 = weight of the moisture dish with the material before drying, in g;

W_2 = weight of the moisture dish with the material after drying, in g; and

W = weight of the empty moisture dish, in g.

ANNEX B

(*Clause* 4.5.2)

DETERMINE FLAT SOUR SPORE FORMERS IN FOODS

B-0 The organism of this group is *Bacillus coagulans*. It is responsible for spoilage of canned products.

B-1 EQUIPMENT, MATERIALS AND GLASSWARES

B-1.1 Autoclave of sufficient size and number. Used for sterilization of media and for discarded plates/used media, etc (with calibrated thermometer and pressure gauge).

B-1.2 Anaerobic jars or incubators with equipment and material for obtaining anaerobic conditions.

B-1.3 Balance Sensitive, to 0.1 g with 200 g load.

B-1.4 Blenders with Steel Jar and Lid/Stomacher

B-1.5 Bunsen Burners

B-1.6 Colony Counter (Quebec or Equivalent)

B-1.7 Dilution and Media Storage Bottles, 120, 300, 600 and 1 500 ml in capacity.

B-1.8 Durham's Tubes

B-1.9 Glass Test Tubes 16 × 150 mm, rimless.

B-1.10 Plastic Caps for Test Tubes

B-1.11 Serological Test Tubes

B-1.12 Hot air ovens used for sterilization of glass and metal ware. They should have a thermostat range between 150°C and 185°C.

B-1.13 Hockey Sticks

Glass bent rods (or suitable plastic make) with fine polished edges, 3-4 mm diameter, 15-20 cm long with angled spreading surface 45-55 mm long or disposable plastic material.

B-1.14 Howard Mold Counting Chamber

B-1.15 Haemocytometer

B-1.16 Incubators

At least 4 incubators are necessary, to be adjusted at 30°C, 37°C, 44.5°C and 55°C of proper size. B.O.D. incubator for temperature less than ambient temperature.

B-1.17 Inoculating Loops and Wires

3-5 mm dia of nichrome or platinum or plastic

B-1.18 Magnetic Stirrer

B-1.19 Membrane filtration apparatus, for sterilizing fluids which are affected by heat, for example Seitz filter operationalzed membrane filters.

B-1.20 Microscope binocular, with 900 x and higher magnification.

B-1.21 Microscopic Slides and Cover Slips

B-1.22 Non-adsorbant Cotton

B-1.23 Petri Plate (Glass or Plastic)

B-1.24 Petri Plate Containers

Stainless steel or aluminium, with covers) for hot air sterilization of glass petri plates.

B-1.25 Pipettes (Glass or Plastic), graduated, with 1, 5 and 10 ml total flow type/automatic pipette with error < ±5 percent with sterilisable or autopipetor with pre-sterilized plastic tips.

B-1.26 Pipette containers (Stainless steel plastic tip containers boxes)

B-1.27 *p*H Meter—Electronic *p*H meter with accuracy of 0.1 *p*H unit shall be used.

B-1.28 Refrigerator and Deep Freezer

B-1.29 Test Tube Racks and Baskets to Hold Test Tubes

B-1.30 Thermometers

B-1.31 Vortex–Mixer

B-1.32 Water Bath for Holding Media at 44-46°C

B-1.33 Serological Water Bath

B-1.34 Laminar Flow Chamber

B-1.35 Biological Safety Cabinet Level II

B-2 CULTURE MEDIA

Dextrose tryptone agar (with bromocresol purple).

B-3 PROCEDURE

Weighed samples or dilutions of the sample are taken in a test tube and heat shocked at 88°C for 5 min. The sample tubes are immediately cooled and 1 ml of the heat shocked sample or decimal volume is transferred to petri plates. 18 to 20 ml of melted bromocresol purple agar is added. After mixing the plates are incubated at 55°C for 48h. Surface colonies on dextrose tryptone agar will appear slightly moist, usually slightly convex and pale yellow. Sub-surface colonies on this medium are compact with fluffy edges. Colonies are surrounded by a yellow zone. Suspected colonies are counted and expressed as number per g of the sample.

B-4 CALCULATION

Average plate count × dilution factor = X

B-5 EXPRESSION OF RESULT

Aciduric flat sour spore formers = X/g

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